REMARKS

Claims 1-32 are now pending in the application. Claims 1, 3, 4, 5, 11, 14 and 16 are amended. The abstract is also amended. Claims 18-32 are added. No new matter is presented. Claims 1-17 stand rejected under 35 U.S.C. §102(b). The above amendments and the following remarks are considered by Applicants to overcome each rejection raised by the Examiner and to place the application in condition for allowance. An early Notice of Allowance is therefore requested.

I.   Amendments to the Abstract

Applicants have amended the abstract to overcome typographical errors. No new matter is presented.

II.   Rejection of Pending Claims 1, 2, 5, 9, and 10 Under 35 U.S.C. § 102(b)

Claims 1, 2, 5, 9, and 10 stand rejected as being anticipated by Uchiyama et al. (U.S. Patent No. 5,798,776). This rejection is traversed and believed overcome in view of the following discussion.

A.   Relevant Law

"A claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference." *Bristol-Myers Squibb v. Ben Venue*, 246 F.3d 1368, 1374 (Fed. Cir. 2001). Identity of invention requires that a prior reference disclose to one of ordinary skill in the art all elements and limitations of the patent claim. *Scripps Clinic v. Genentech*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). Absence from the reference of any claimed element negates anticipation. *Kloster Speedsteel AB v. Crucible, Inc.*, 230 USPQ 81 (Fed. Cir. 1986).

B.   Summary of Cited References

Uchiyama is directed to a color ink jet recording method that can make the dot diameter of a black ink equal to the dot diameters of other color inks without causing image quality degradation. Uchiyama also discloses a method that can prevent the bleeding derived from color-to-color intermixing caused by the flow of a black ink into other color inks.

C.   Argument

The Examiner asserts that Uchiyama teaches all the features recited in claims 1, 2, 5, 9, and 10. Applicants traverse the rejection of claims 1, 2, 5, 9, and 10.

Since claims 2, 5, 9, and 10 depend from independent claim 1, Applicant will address independent claim 1, first. Amended claim 1 recites that the first and second control portions control the first and second ink ejecting portions such that a relationship between the total volume of the black ink and the total volume of the ink of the color other than black changes when a presently selected print mode of the printer is changed from one mode to another. The support for these amendments is provided in the specification. (see Table 1, paragraph [0055]). Table 1 provides that when the print mode is changed from the DRAFT mode to the NORMAL mode, the newly recited relationship is changed from the large-value/medium-value relationship to the medium-value/small-value relationship.

Although Uchiyama discloses examples of a color ink-jet printer wherein the total volume of a plurality of black ink droplets 102 is larger than the volume of non-black ink droplet 101, Uchiyama fails to teach or suggest a first and second control portion controlling the first and second ink ejecting portions such that a relationship between the selected one total volume value of the at least one droplet of the black ink and another total volume value of the at least one droplet of the ink of said color other than black changes when a presently selected print mode of the color ink jet printer is changed from one mode to another. In other words, Uchiyama does not teach or suggest control portions that control the relationship between a selected volume value and another total volume value based on the print mode. Therefore, it is respectfully submitted that Uchiyama fails to teach or suggest the features recited in claim 1. In particular, Uchiyama fails to teach or suggest first and second control portions for controlling the first and second ink ejecting portions such that a relationship between the selected one total volume value of the at least one droplet of the black ink and another total volume value of the at least one droplet of the ink of the color other than black changes when a presently selected print mode of the color ink-jet printer is changed from one mode to another. Therefore, Applicants request the withdrawal of the rejection of claim 1 under 35 U.S.C. 102(b).

Claims 2, 5, 9, and 10 are dependent upon independent claim 1. Therefore, it is submitted that for at least the reasons mentioned above, claims 2, 5, 9, and 10 recite patentable subject matter.

III. **Rejection of pending claims 1-17 Under 35 U.S.C. 102(b) as being anticipated by Terasawa et al.**

Claims 1-17 are rejected as being anticipated by Terasawa et al. (U.S. Patent No. 6,290,329). This rejection is traversed and believed overcome in view of the following discussion.

A. Summary of Cited References

Terasawa is directed to a recording apparatus having a black ink recording head for discharging black ink onto a recording material and at least one single color non-black recording head for discharging non-black ink onto the recording material includes a recording head driver for driving the recording heads to discharge the ink onto the recording material. Terasawa also discloses a controller for controlling the recording head driver so that a volume per unit area of the recording material, of the black ink discharged from the black ink recording head and deposited on the recording region of the recording material is larger than that of the non-black ink discharged from the no-black ink recording head and deposited on the recording regions of the recording material.

B. Argument

Independent claims 1, 11, and 14 are amended to recite first and second control portions controlling the first and second ink ejecting portions such that a relationship between the selected one total volume value of the at least one droplet of the black ink and another total volume value of the at least one droplet of the ink of the color other than black changes when a presently selected print mode of the color ink jet printer is changed from one mode to another.

Although Teresawa discloses a controller for controlling the volume of the black and color inks and providing a greater volume of the black ink relative to the color ink, Teresawa does not teach or suggest the control features provided in amended claims 1, 11, and 4. Specifically, it is submitted that Teresawa fails to teach or suggest first and second control portions controlling the first and second ink ejecting portions such that a relationship between the selected one total volume value of the at least one droplet of the black ink and another total volume value of the at least one droplet of the ink of the color other than black changes when a presently selected print mode of the color ink jet printer is changed from one mode to another. In other words, Teresawa does not provide for the controlling of the volume of the ink based on different print modes. As provided in claims 1, 11, and 14 and illustrated in

Table 1, the claimed invention provides the control relationships between different print modes such as NORMAL and DRAFT. Therefore, it is submitted that Teresawa fails to teach or suggest that the first and second control portions control the first and second ink ejecting portions such that a relationship between the total volume of the black ink and the total volume of the ink of the color other than black changes when a presently selected print mode of the printer is changed from one mode to another.

In view of the above amendments to claims 1, 11, and 14, Applicants request the withdrawal of the 102(b) rejection.

With regard to dependent claims 2-10, 12, 13, and 15-17, the Examiner states that "any known printer controller having the ability to change drop size and volume are inherently assumed as with the Terasawa printer". Applicants disagree. Under a 102 rejection, every element recited in the rejected claims must be disclosed in the cited reference. Therefore, Applicants request the Examiner to provide a reference disclosing a printer controller that can alter the drop size and volume of the ink droplets based on print quality. In addition, since claims 2-5, 6-13, and 15-17 are dependent upon independent claims 1, 11, and 14, Applicants submit that for at least the reasons mentioned above, and these claims likewise recite patentable subject matter. Therefore, Applicant respectfully requests the withdrawal of the rejection of claims 2-10, 12, 13, and 15-17 under 35 U.S.C. 102.

IV.   New Claims

Claims 18-32 are added. No new matter is presented. Claims 18, 21, and 24 depend upon claims amended claims 1, 11, and 14. These claims recite a print mode memory portion operable to store the presently selected print mode indicative of one of first and second print qualities, the first print quality being lower than the second print quality. The second control portion controls the second ink ejecting portion such that the another total volume value is smaller than the selected one total volume value if the presently selected print mode indicates the first print quality. The support for new claims 18, 21, and 24 is provided in the specification. (See Table 1). Table 1 illustrates that when the comparatively low print-quality print mode (DRAFT, NORMAL or FINE mode) is presently selected, the comparatively small total volume is selected for the non-black or second ink while the comparatively large total volume is selected for the black or first ink.

As a result, the claimed invention provides print quality modes while reducing the ink bleeding at the boundary between the black ink dots and the adjacent ink dots of the other colors. In contrast, Uchiyama, does not teach or suggest that volume of the black ink

compared to the color ink is dependent upon the print quality. Moreover, the cited reference does not teach or suggest a higher print quality mode when the black ink and the color ink have substantially the same volume or the color ink total volume is greater.

Claims 19, 22, and 25 are also added. The basis for these claims is also supported by Table 1, which shows that when the comparatively high-print quality print mode (SUPER FINE mode) is presently selected, the total volume of the non-black or second ink is equal to that of the black or first ink.
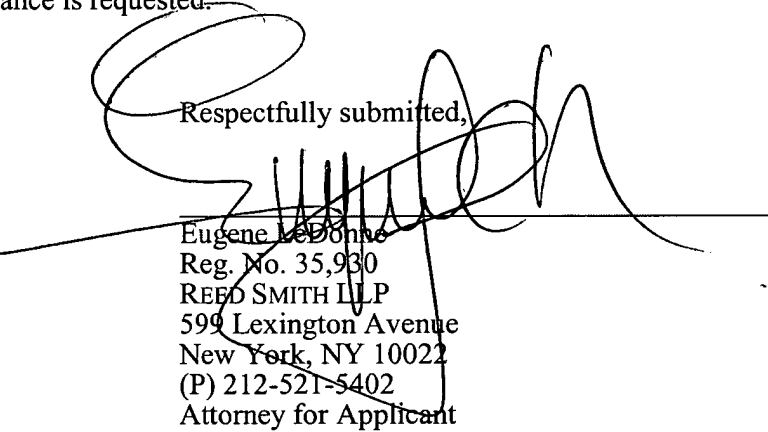
New claims 20, 23, and 26 are depend upon claims 1, 11, and 14. These claims recite a feature that when the presently selected print mode is changed, the first and second control portions controls the first and second ink ejecting portions, to change the total volume of the black ink and the total volume of the non-black or second ink such that the changed total volume value of the non-black or second ink is smaller than the changed total volume value of the black or first ink.

New independent claims 27, 29, and 30 are also added. These claims include all the limitations provided in claims 1, 11, and 14 and additional recite the first and second control portions control the first and second ink ejecting portions such that a relationship between the total volume of the black or first ink and the total volume of the non-black or second ink is each first local area of the image is different from that in each second local area. The support for the claims is provided in the specification and claims. (See claim 5, Paragraphs 13 and 69). Claims 28, 30, and 32 are added. These claims are dependent upon claims 27, 29, and 30. No new matter is provided. In view of the distinctions provided. Applicants request the favorable consideration and allowance of claims 18-32.

V. Conclusion

In view of the above amendments and remarks, Applicants submit claims 1-32 recite subject matter that is neither taught nor suggested by the applied references. Claims 1, 3, 4, 5, 11, 14 and 16 are amended. The abstract is also amended. Claims 18-32 are added. No new matter is presented. Thus, for the reasons presented above, claims 1-32 are believed by Applicant to define patentable subject matter and should be passed to issue at the earliest possible time. A Notice of Allowance is requested.

Respectfully submitted,

Eugene LeDonne
Reg. No. 35,930
REED SMITH LLP
599 Lexington Avenue
New York, NY 10022
(P) 212-521-5402
Attorney for Applicant

ELD:BKS